



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,876	09/09/2003	Naoto Kawamura	10991153-11	2087

7590 08/05/2004  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80528-9599

EXAMINER

BROOKE, MICHAEL S

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 08/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/657,876	<b>Applicant(s)</b> KAWAMURA ET AL.	
	<b>Examiner</b> Michael S. Brooke	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-17 is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>09/09/03</u> . | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2853

## **DETAILED ACTION**

### ***Specification***

The disclosure is objected to because of the following informalities:

The cross-references to related applications should be updated. Specifically, 09/938,694 is now U.S. Pat. No. 6,648,437.

Appropriate correction is required.

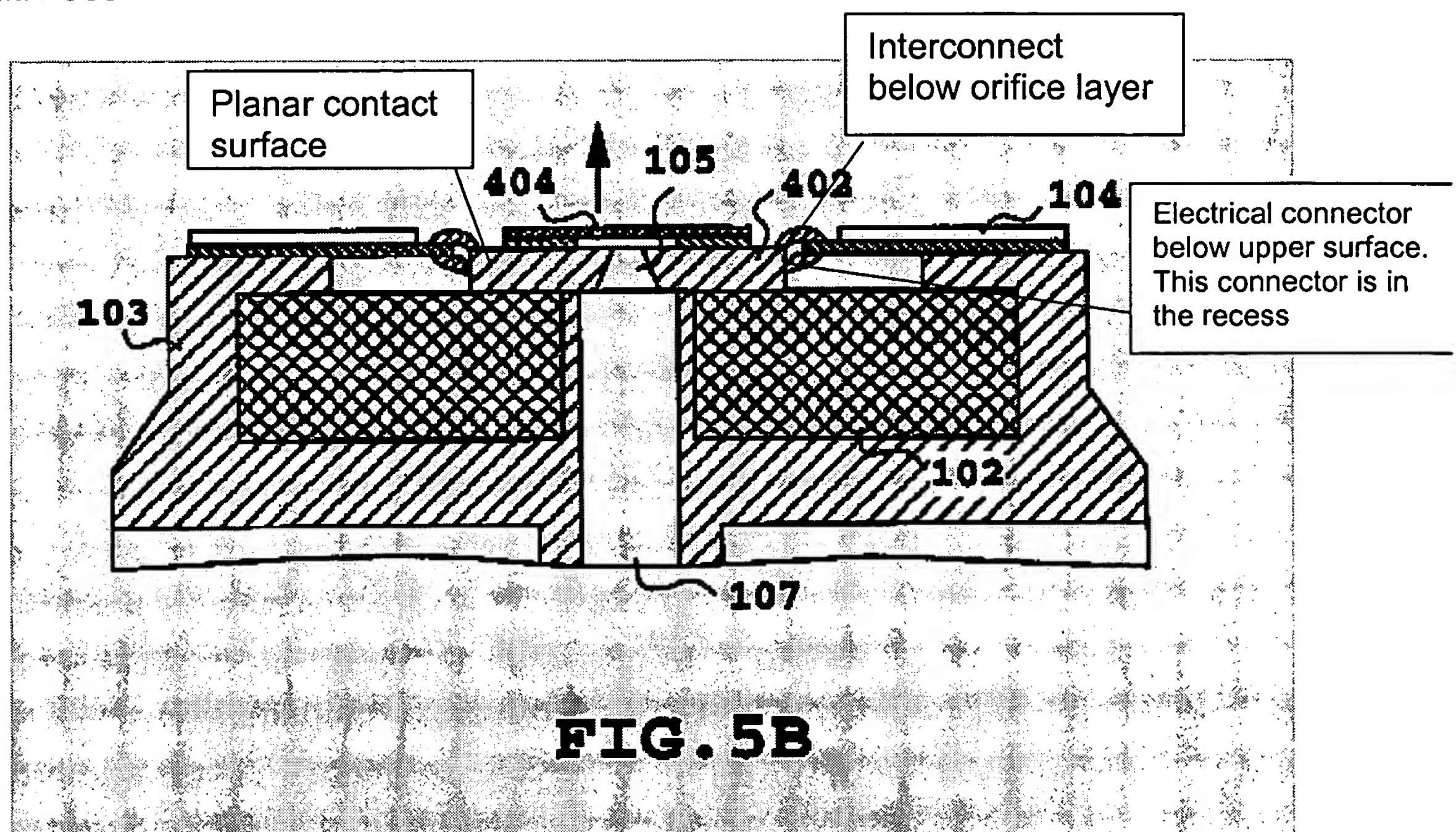
### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-11, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Komuro (6,099,109).**



With respect to claim 1, Komuro teaches (Fig. 5B) an ink jet print head comprising a carrier (103) having a recess, a fluid ejecting substrate (402) disposed in the recess and configured for establishing electrical and fluidic coupling with the carrier. The substrate has a planar orifice layer (11) and a planar contact surface positioned below the orifice layer. The orifice layer extends above the upper surface of the carrier. As shown in Fig. 2B, encapsulant is provided over the substrate and the carrier.

With respect to claim 2, the substrate receives fluid from the carrier.

With respect to claim 3, the encapsulant is formed adjacent to the orifice layer (see Fig. 2B).

With respect to claim 4, the carrier has an electric connector connected to the substrate at a location below the upper surface of the carrier.

With respect to claim 5, the carrier comprises a channel (107) that is coupled to a fluid reservoir.

With respect to claim 6, this limitation is directed to the method by which the head is formed and is not deemed to have any patentable weight with regard to claim 1, which an apparatus claim.

With respect to claim 7, the contact surface is coupled to the carrier by an interconnect that is positioned below the orifice layer.

With respect to claim 8, Fig. 5B illustrates that the interconnects are positioned below the orifice layer, and that upper surface of the carrier is counter sunk to form a recess and that the inner lower surface is configured to support the substrate.

With respect to claim 9, an electrical connector is formed in the recess.

With respect to claim 10, since the recess has vertical sidewalls, it would be considered to be "stepped."

With respect to claim 11, all of the limitations have been discussed, above.

With respect to claim 13, the printer illustrated in Fig. 7 would necessarily have electrical connections coupling the print heads to the carriage.

With respect to claim 14, the electrical connection is arched, as shown in Fig. 5B.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2853

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komuro (6,099,109) in view of Tellier (4,899,178).**

Komuro teaches the claimed invention with the exception of the head being fluidically coupled to the fluid reservoir by a flexible conduit.

Tellier teaches that using an ink cartridge, as in Komuro, or using a flexible conduit are known equivalents in the ink jet art for supplying ink to a print head (col. 7:25-28). Because these two means of supplying ink were art recognized equivalents at the time the invention was made, one of ordinary skill in the ink jet art would have found it obvious to have provided Komuro with a flexible conduit, for the purpose of supplying ink in a known alternative manner.

***Allowable Subject Matter***

Claims 15-17 are allowed.

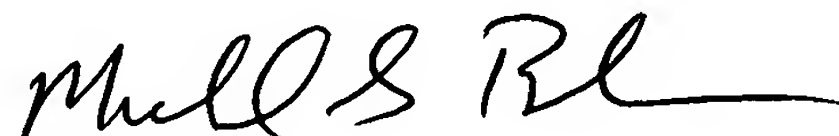
The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach the combination of the orifice layer extending above the upper surface of the substrate and the counter sunk recess having a depth chosen to substantially equal the height of the contact surface.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael S. Brooke whose telephone number is (571) 272-2142. The examiner can normally be reached on M-F from 5:30 AM-2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael S. Brooke  
Primary Examiner  
Art Unit 2853

MSB  
08/03/04